



CAS TTTP

Team Raven



CAS TTTP



- FOUNDATION
- PLANNING
- EXECUTION
- FIRE SUPPORT
- INFORMATION FLOW



AIR WARRIOR NTC TRENDS



- **ACA DEVELOPMENT**
- **GEO-REFS VS GRID COORDS**
- **NON-STANDARD RADIO CALLS**
- **9 LINE BRIEFINGS**
- **OPSEC/COMSEC**
- **AO UPDATES**
- **FIGHTER AIRSPACE VIOLATIONS**



TACP MISSION

"JFIRE"

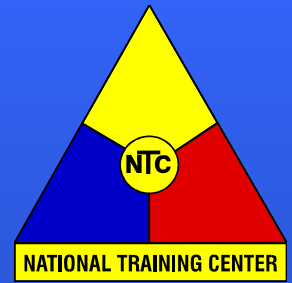
AFTTP 3-2-6



The Air Force TACP is a control element stationed **with** and **supporting** an Army combat unit. The TACP provides the **interface** between the Army unit it supports and the combat Air Force unit that provides combat air support. The TACP **advises** the ground commander on the capabilities and limitations of combat aircraft and weapons and



DOCTRINE



- CAS provides firepower in offensive and defensive operations to destroy, disrupt, suppress, fix, or delay enemy forces in close proximity to friendly forces.

JP 3-09.3



DOCTRINE



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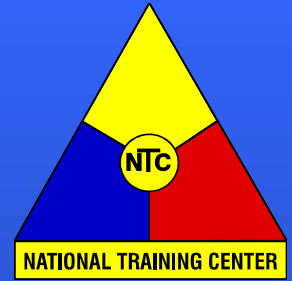
JP 3-09.3

- Conditions for effective CAS are: air superiority, suppression of enemy air defenses, target marking, favorable weather, prompt response, aircrew and terminal controller skill, appropriate ordnance, communications, and command and control

JP 3-09.3



DOCTRINE (cont.)

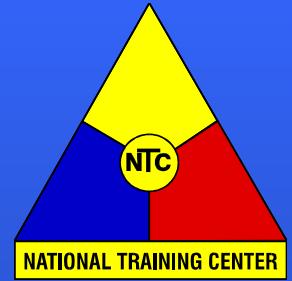


- ACAs allow simultaneous component attacks of surface time-critical targets (TCT) in close proximity to each other by multiple attack means, of which one is normally air.

Joint Targeting process and Procedures for Targeting Time-Critical Targets (ALSA, July 1997)



DOCTRINE (cont.)

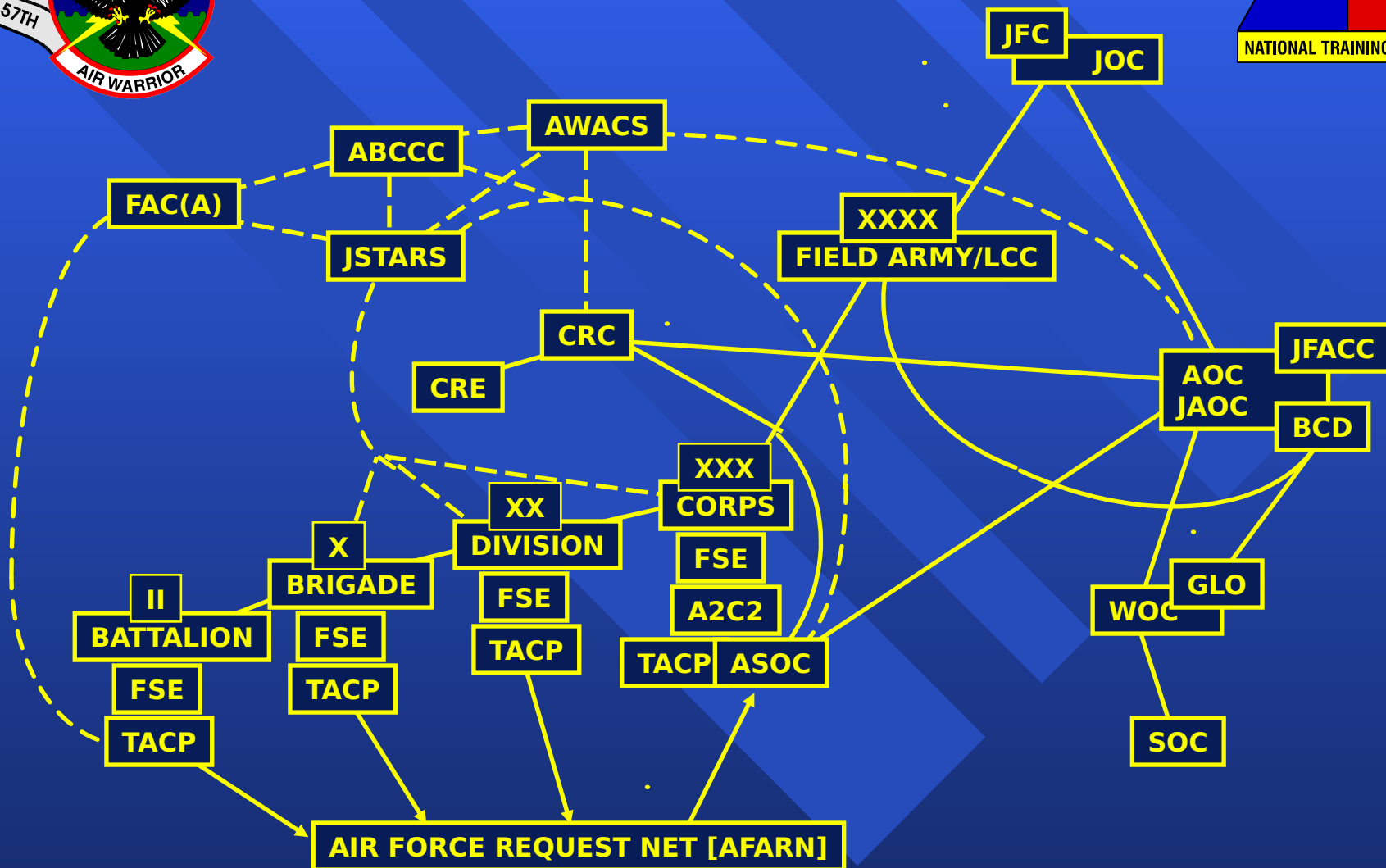
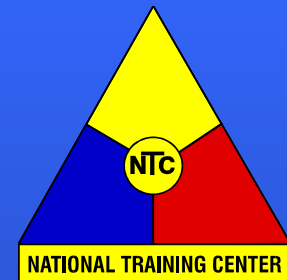


- The maneuver of ground forces must be a key considerations when planning J-SEAD operations.
- Therefore, planners must be aware of the changing IADS threat as the enemy maneuvers.

JP 3-01.4 JTTP for Joint Suppression of Enemy Air Defenses (J-SEAD)

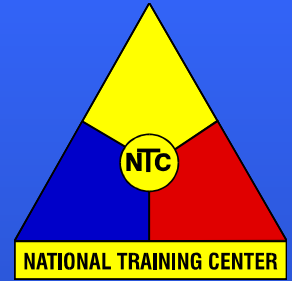


AIR FORCE / ARMY CAS CONNECTIVITY





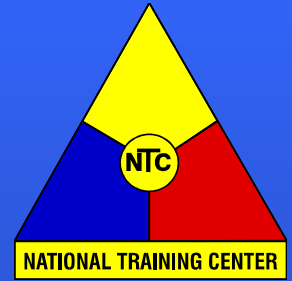
ORDERS



- **Clear CC's guidance for CAS**
 - **Focus**
 - **Shift**
 - **End State**



OPORD Example 1



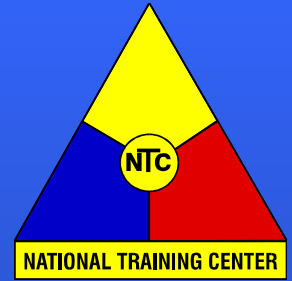
ANNEX D

c. AIR SUPPORT:

- (1) General. "PUSH-CAS will be used... Initially integrated to the aviation deep attacks to assist in the instruction...
- (2) Air Interdiction operations...
- (3) Close Air Support operations. Priority of CAS is to AVN Bde during deep attacks...



OPORD Example 2

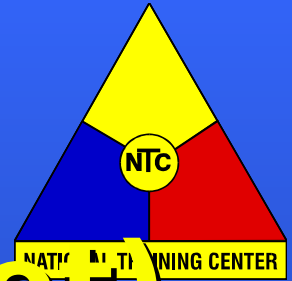


ANNEX D

2. COMBAT EFFECTS

...CAS focuses at the ZOP from 0600 until TF 1-15 breach force commits. The BDE FSE initiates lethal and non-lethal SEADs allow CAS to attack the POP...then attack repositioning forces after TF 1-15's penetration...1-12 fires focus on SEAD when CAS is on station...

Better
Focus, timing, shift
End state?



OPORD Example 3

(CAS Annex/Worksheet)

MISSION: 3 BCT attacks in zone NLT
190600 to defeat the 15 MRR...

CC's Intent for CAS: Attack the 15 MRR
starting with the FSE, or FSD. Once
attrited, focus on the AGMB...Destroy an

Includes end state

THREATS: SA-18s with FSE and...

COMM PLAN: Check in on TAD...

ACA PLAN: 300AGL to 13,000 MSL...



MDMP



CAS Specifics

- Receipt of mission
- Mission analysis
- COA development
- COA analysis
- COA comparison
- COA approval
- Orders production



- MET-T analysis
- Terrain focus
- Airspace analysis
- TF maneuver
- Fires required
- EAs
- Obstacle plan
- Observers / R&S
- PAAs
- ACAs
- Triggers
- SEAD / Marks



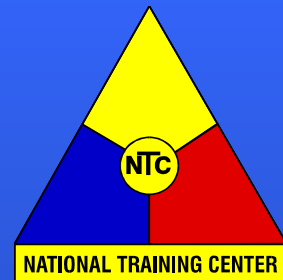
CAS PLANNING



- **MET-T analysis**
 - Enemy scheme of maneuver
 - CC's intent
- **Terrain focus**
- **Airspace analysis**
- **TF scheme of maneuver and priority**
- **Fires required**
- **Engagement Areas (EAs)**
 - NAI, TAI, Forward Observer Placement



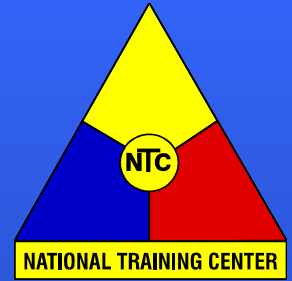
CAS PLANNING



- **Obstacle plan**
- **Observers / R&S**
- **PAA's**
- **ACAs**
- **Triggers...are they Maneuver Related?**
- **SEAD / Marks**
- **Integration of ALO / ETACs in FS rehearsal, CAR, and FS FM rehearsal**



CAS PLANNING



- EA DEVELOPMENT
- OP SELECTION
- TRIGGERS



CAS PREPARATION



■ Rehearsals

- Fire Support Rehearsal
- BDE Combined Arms Rehearsal (CAR)

■ Technical Rehearsals

- Fire Support FM Rehearsal

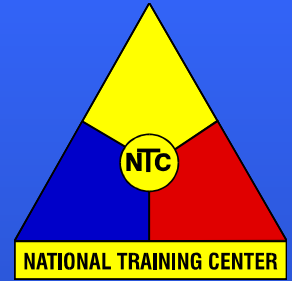
■ Comms Rehearsal(s)

- TACP C2





RESOURCES



■ TACP

- Brigade Pooled (?)
- TOC, TAC, Assault CP, others
- BN TOC, TAC, others

■ Tracks

■ Radios



TACP INFO FLOW



■ TOC setup

- FSE
- XO (staff)
- ADA
- Radio Table

■ Info Channels

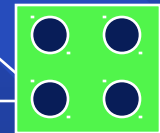
- Staff
- TACP

■ What's in your TACSOP?

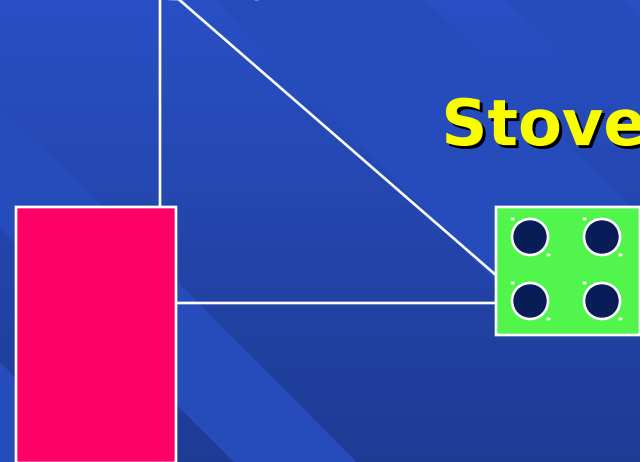
Kitchen Sink



Stove



Refrigerator





PLANNING TIMELINE



ATO Cycle -- 24 Hours

1972's (due by 1000)

For every mission

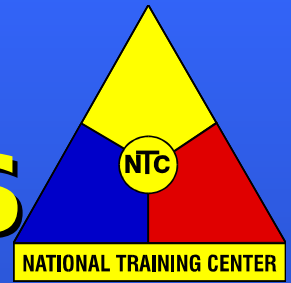
Addendum Sheet Info

**Send updates to Blackbird
ASAP**

Army Channels



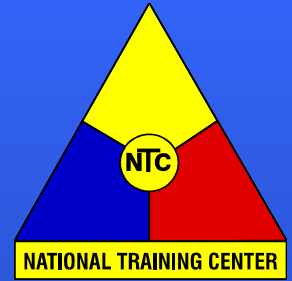
MASSING & DECONFLICTING FIRES



- **ACA Planning Considerations**
- **Max Ord and Parallel Fights**
- **Gun Target Line Deconfliction**



DECONFLICTION



Or how to not turn our artillery into their ADA without even trying!

3 Methods (altitude/lateral/timing and combinations)

Plan for Worst Case

*following graphics from JPUB 3-09.3
"Joint Tactics Techniques and Procedures for CAS"*



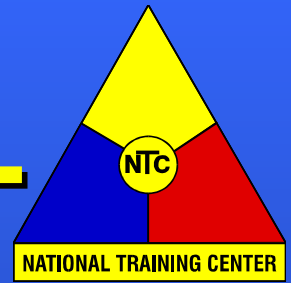
ACAs



- When do you need them?
- How do you use them?
- Do you have to have them?
- DO they help or hurt the mission?



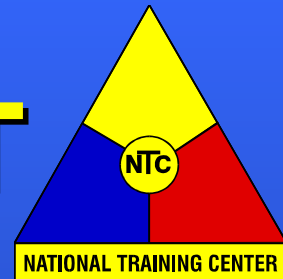
ACA DEVELOPMENT



- Allow simultaneous attacks
- Easily ID'ed from the air
- Cover: ingress, egress, employment, and holding



ACA DEVELOPMENT



FORMAL VS INFORMAL

- **Formal**

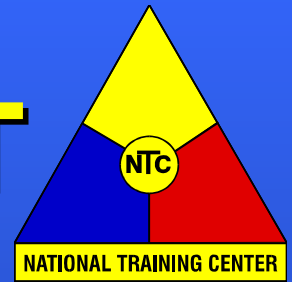
- Lateral and vertical limits (3D)
 - Published in ACO

- **Informal**

- Everything else



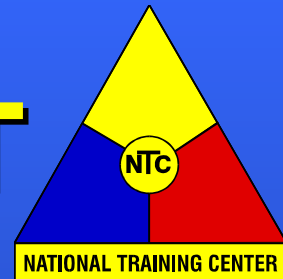
ACA DEVELOPMENT



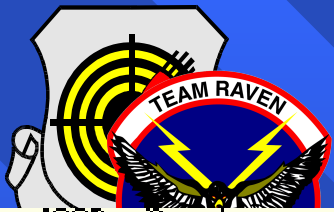
- **Enemy/Friendly scheme of maneuver**
- **CC's intent**
- **Obstacle plan**
- **TF scheme of maneuver and priority**
- **Engagement Areas (EAs)**
- **PAAs**
- **NAI, TAI, Forward Observer Placement**
- **Geography**



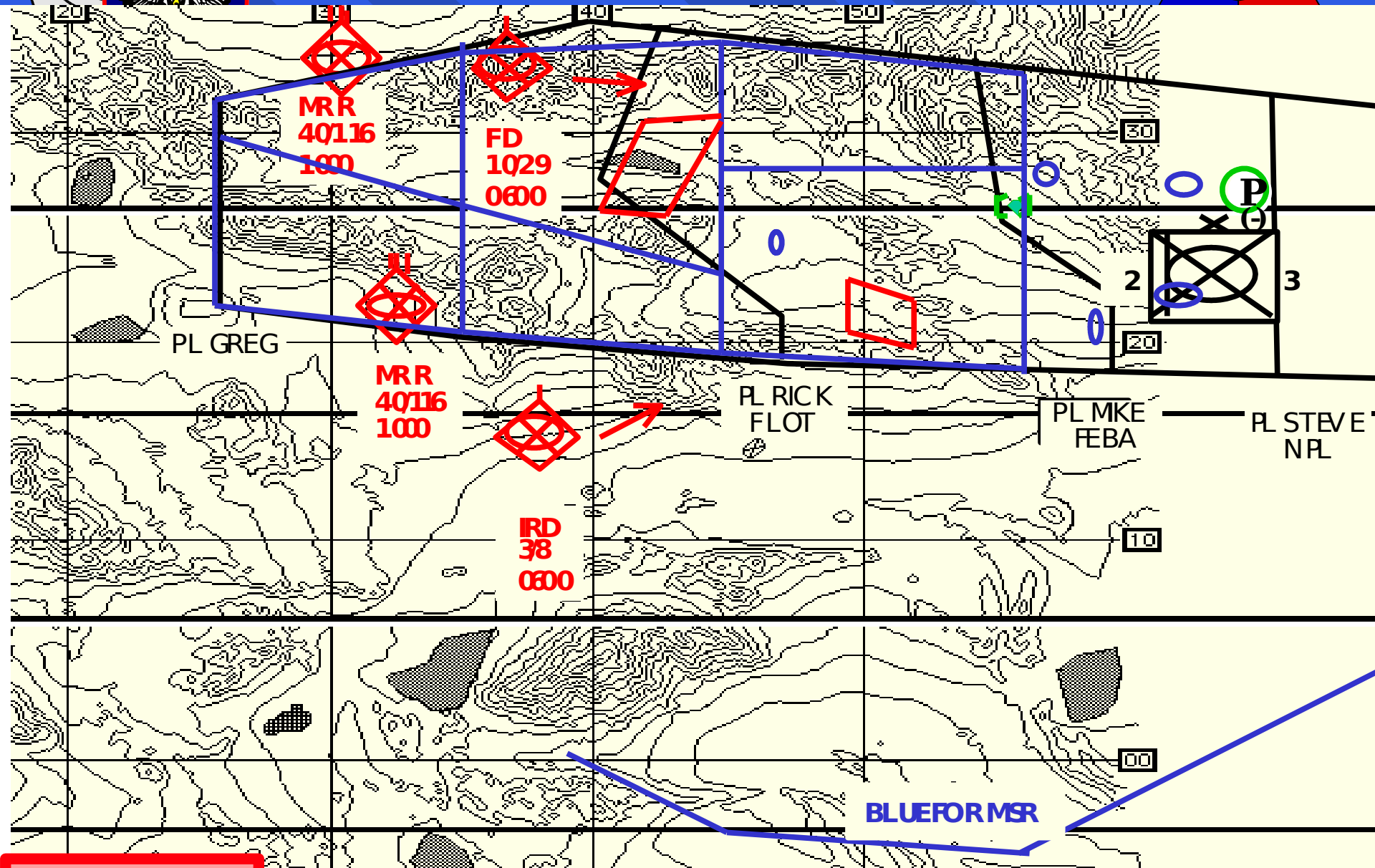
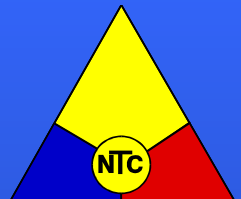
ACA DEVELOPMENT



- **Use terrain**
- **Include vertical limits**
- **Maximize fires**
- **Don't forget holding airspace**
- **Sector vs out-of-sector**

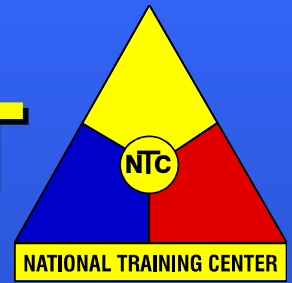


NTC TRENDS





ACA DEVELOPMENT



EXAMPLE

1. High Threat (aircraft low)

ACAs from 300' AGL to
4000' MSL

2. Low Threat (aircraft med to high)

ACAs from 10,000' to 20,000'
MSL

ARTILLERY-CAS AIRCRAFT ALTITUDE SEPARATION

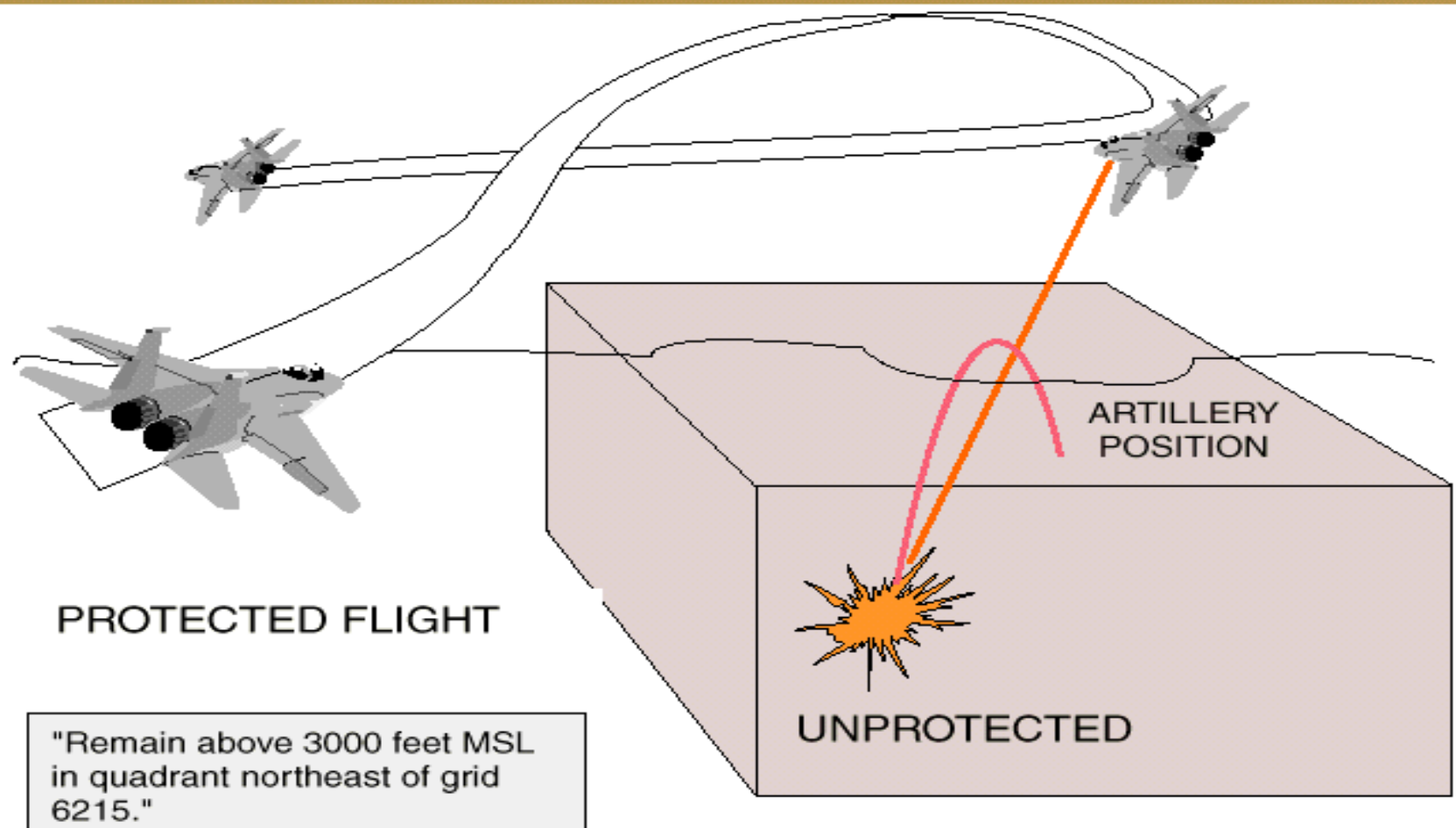


Figure IV-5. Artillery-CAS Aircraft Altitude Separation

ARTILLERY-CAS AIRCRAFT LATERAL SEPARATION

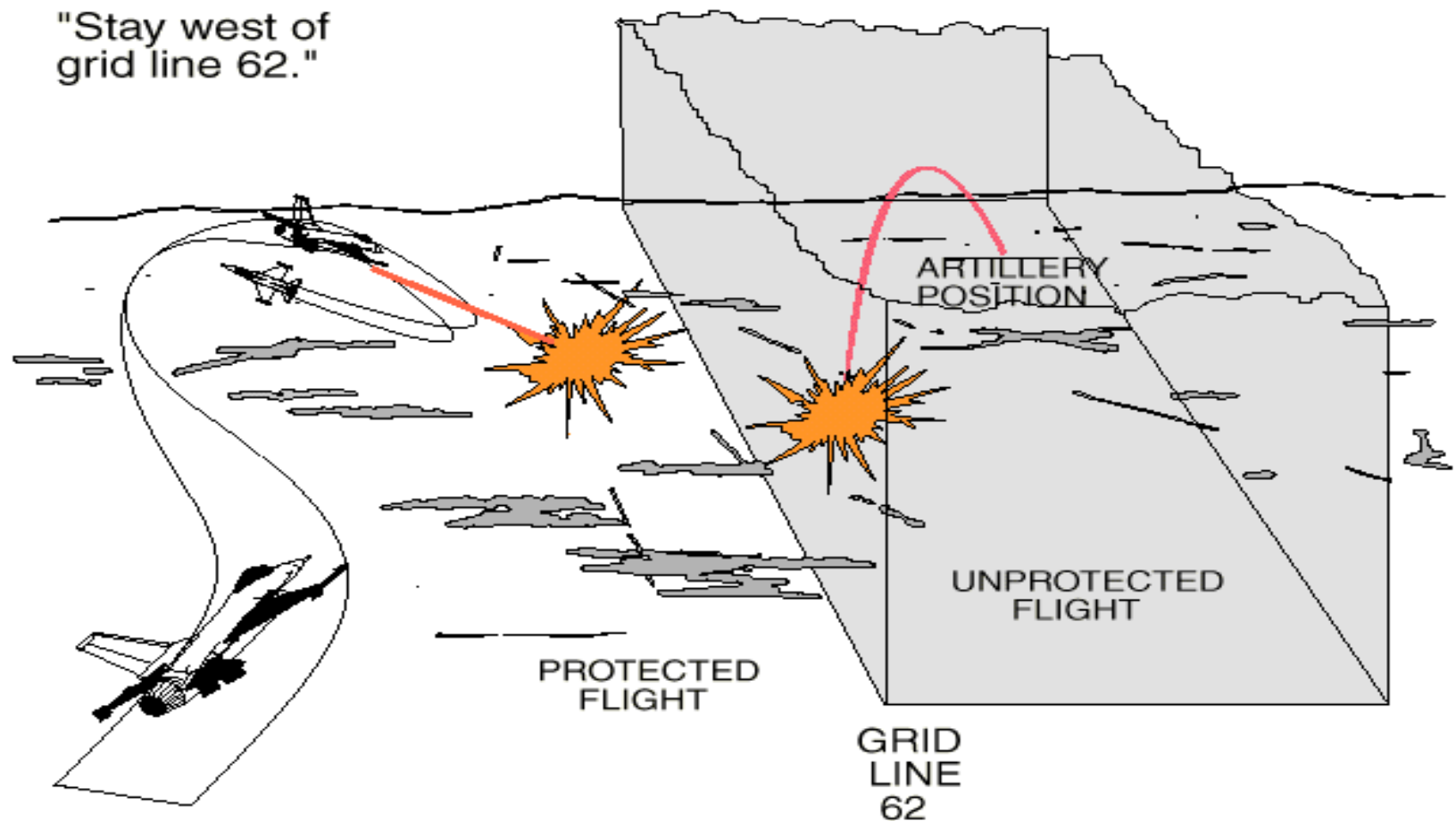


Figure IV-4. Artillery-CAS Aircraft Lateral Separation

ARTILLERY-CAS AIRCRAFT ALTITUDE & LATERAL SEPARATION

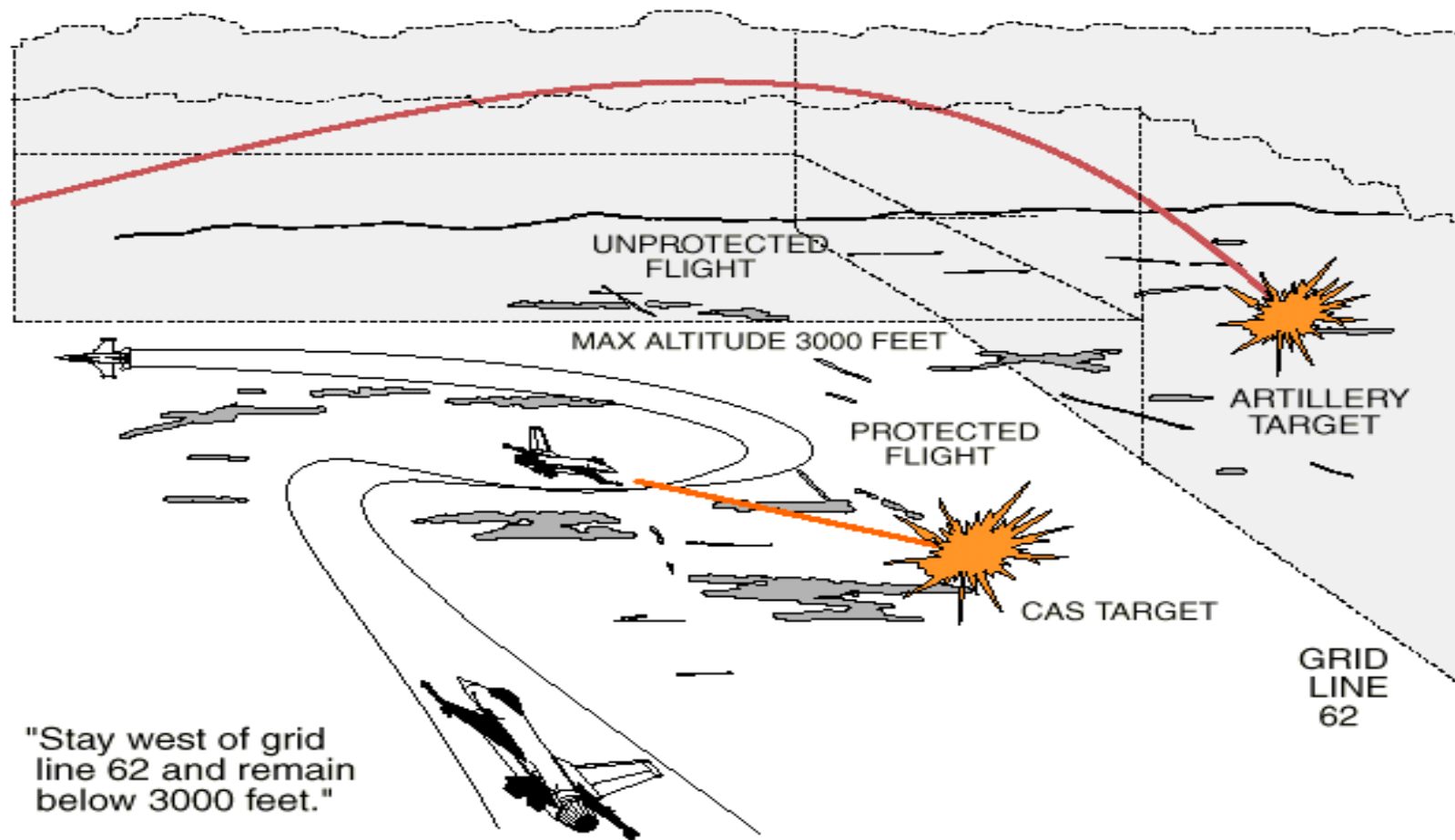


Figure IV-6. Artillery-CAS Aircraft Altitude and Lateral Separation



ARTILLERY-CAS AIRCRAFT TIME SEPARATION

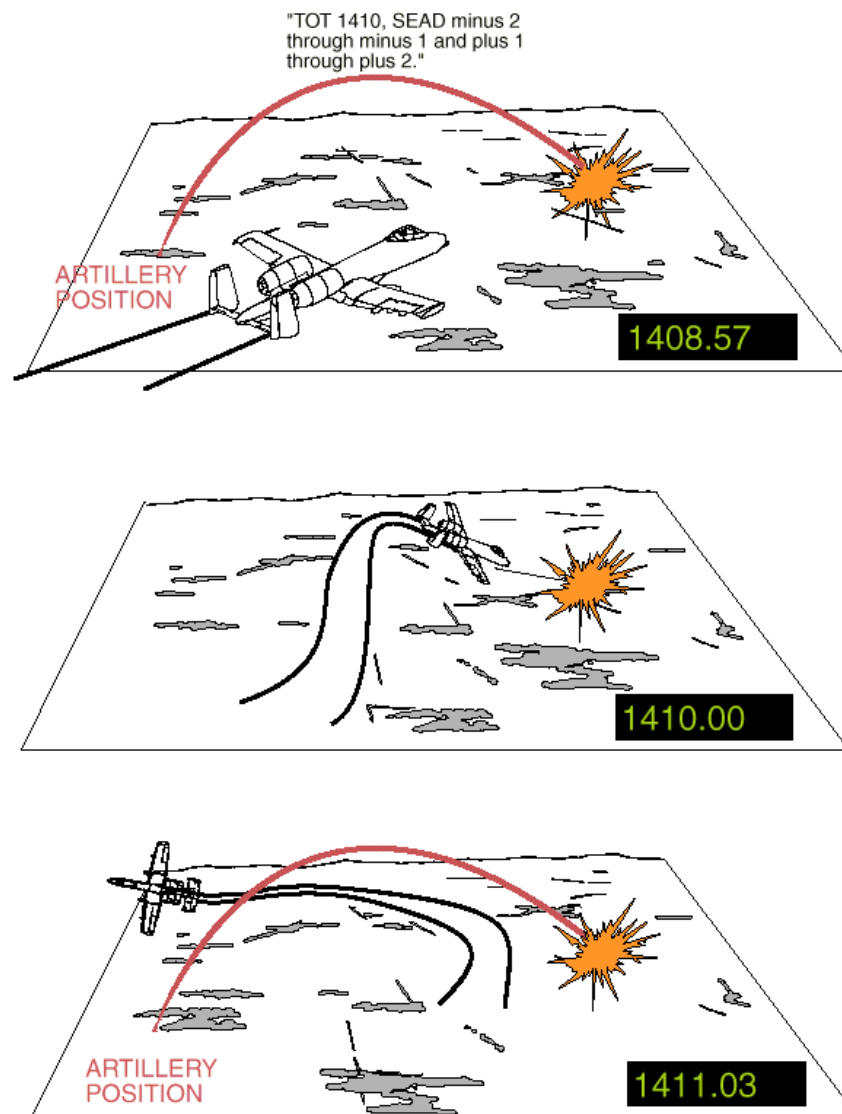
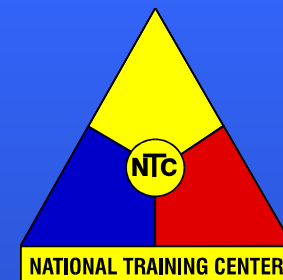
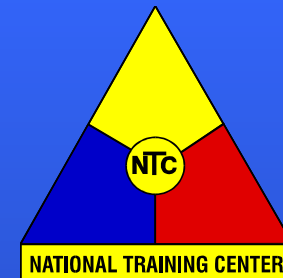


Figure IV-7. Artillery-CAS Aircraft Time Separation



SEPARATION TECHNIQUES

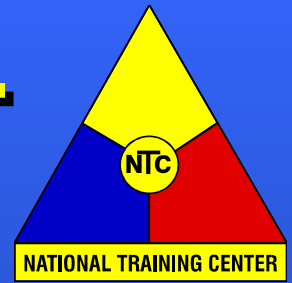
	CAS Target Same as/Near Surface Target	CAS Target Distant From Surface Target	CAS Target Along Gun- Target Line
High/Medium Altitude Attack	Altitude Separation	Altitude Separation	Altitude and/or Lateral Separation
Low/Very Low Altitude Attack	Time Separation	Altitude or Lateral Separation	Altitude and/or Lateral Separation

Figure IV-8. Separation Techniques



FIRE SUPPORT

DECONFLICTION SNAGS



**3 Methods (altitude/lateral/timing)
*and combinations***

Ord-X ?

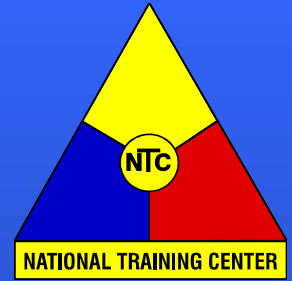
Comm / Terminology (Feet, MSL)

SEAD & Mark Integration

Plan for Worst Case



MAX ORD SOLUTION



■ ARTILLERY

- LIKES METERS
- WORKS AGL

■ CAS

- LIKES FEET
- WORKS MSL

Shoots AGL in meters



Sits on ground level in meters



Flys in feet MSL

ht of terrain + max ord of munition) converted to feet + 1000 ft = safe altitude



ORD 1* SOLUTION

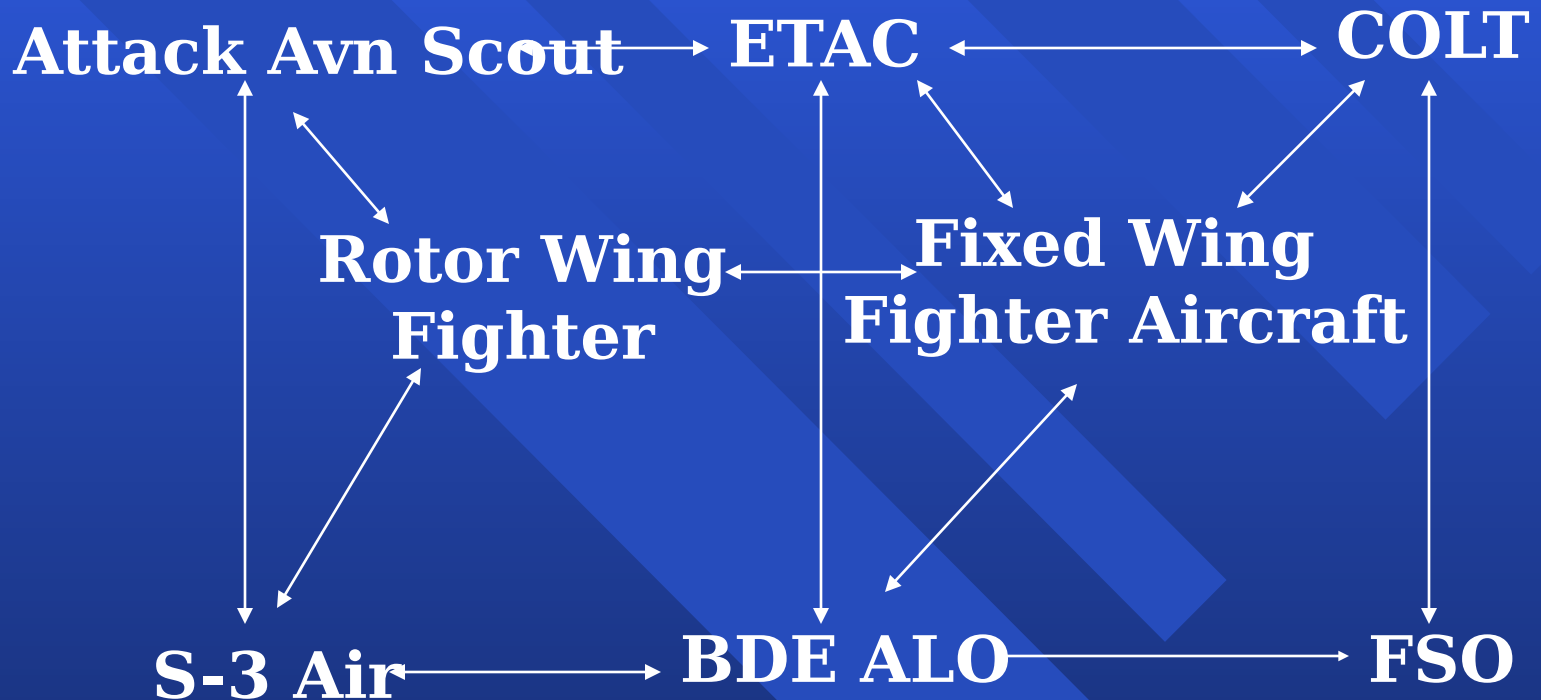


MAX ORD



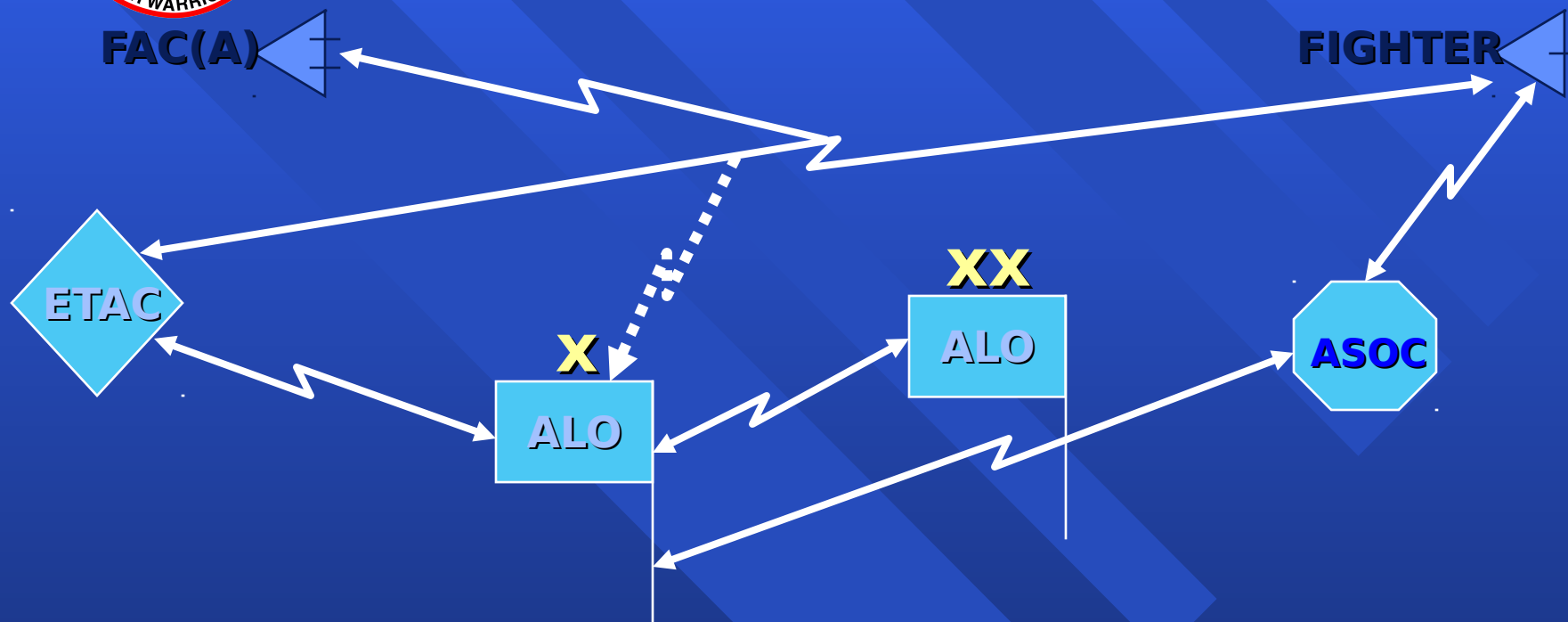
1000m

*





PARALLEL PLANNING



**BDE ALO PLANNING SHOULD BE 20-30 MINUTES
AHEAD OF EXECUTION**



EXECUTION CAS TIME TO ATTACK



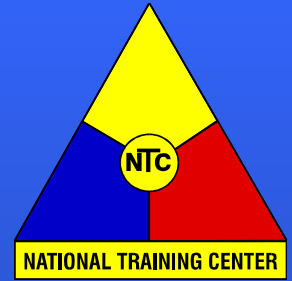
Time?



- 1 & 2. FORMAL PROCESS ON DECISION WILL REDUCE TIME - SOP.
3. DEDICATED / PLANNED SEAD SHOOTER - SPEEDS PROCESSING.
4. CAN NOT REALLY REDUCE.



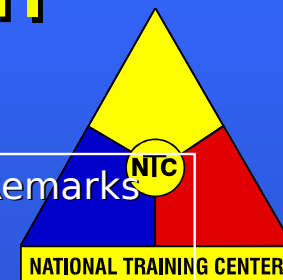
Attitude



- *In much of what we do here your attitude, combined with your aptitude will determine your altitude!*
- *You have the power to make this the worlds best BCT training experience!*



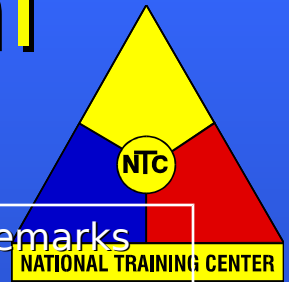
4th ID (M) (-) Renewal Status



Unit	Location	Equipment Draw Status	Activities Last 24 Hours	Activities Next 24 Hours	Remarks
DMAIN	BEHIND STAR WARS BLDG (NV28320130)		Connectivity with DTAC/2BCT/4BCT continuing	Monitoring Lane Training	
DTAC	NV57181134		Established vic Hill 720	Monitor 2BCT/4BCT lane training activities	
553 CSB	NV30030208		Mission Support	Mission Support	
DISCOM	NV29500250		Mission Support	Mission Support	
Division Troops			DCX Prep	DCX Prep	
4 th BDE	NV32510269				Conduct ground MILES gunnery 19-23 MAR
BDE Troops					
1-227 AV	NV32700271		BN TOC established	Receive 14x AH-64Ds from Ft. Hood	Begin PMCS on AH-64Ds upon arrival
2-4 AV	NV31960335	Draw in progress	BN TOC established	16x UH-60s depart Ft. Hood	Prep to receive



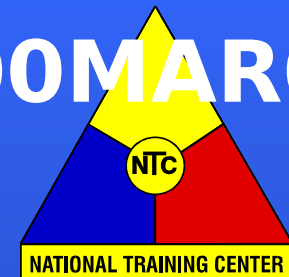
4th ID (M) (-) Rehearsal Status



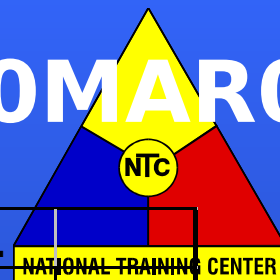
Unit	Location	Equipment Draw Status	Activities Last 24 Hours	Activities Next 24 Hours	Remarks
2 nd BCT	NV38351111		Lane Training	Lane Training	19 MAR-25MAR
BDE Troops			Lane Training	Lane Training	19 MAR-25MAR
2-8 IN	NV42661380		Actions On Contact	Actions on Contact	19 MAR-20 MAR
1-67 AR	NV47101322		Breach Lane	Breach Lane	19 MAR-20 MAR
3-67 AR	NV48200856		Triggers Lane Training	Triggers Lane Training	19 MAR-20 MAR
3-16 FA	NV485295		Lane Training	Lane Training	19 MAR-20 MAR
588 EN	NV48801086		Lane Training	Lane Training	19 MAR-20 MAR
B/1-44 ADA	NV492109		Lane Training	Lane Training	19 MAR-20 MAR
204 FB	NV31090609		Mission Support	Mission Support	19 MAR-20 MAR

- Triggers Lane: 2 CO/TMs attack 1 CO/TM
- Breach Lane: 1 Task Force attacks 1 CO/TM (OFFOR from Actions on Contact Lane)
- Actions on Contact: 1 CO/TM conducts MTC against 1 CO/TM

Draw complete
 Draw in progress, no iss
 Draw in progress, major issue

[illegible]

4BCF Status Report: as of 180700MAR01

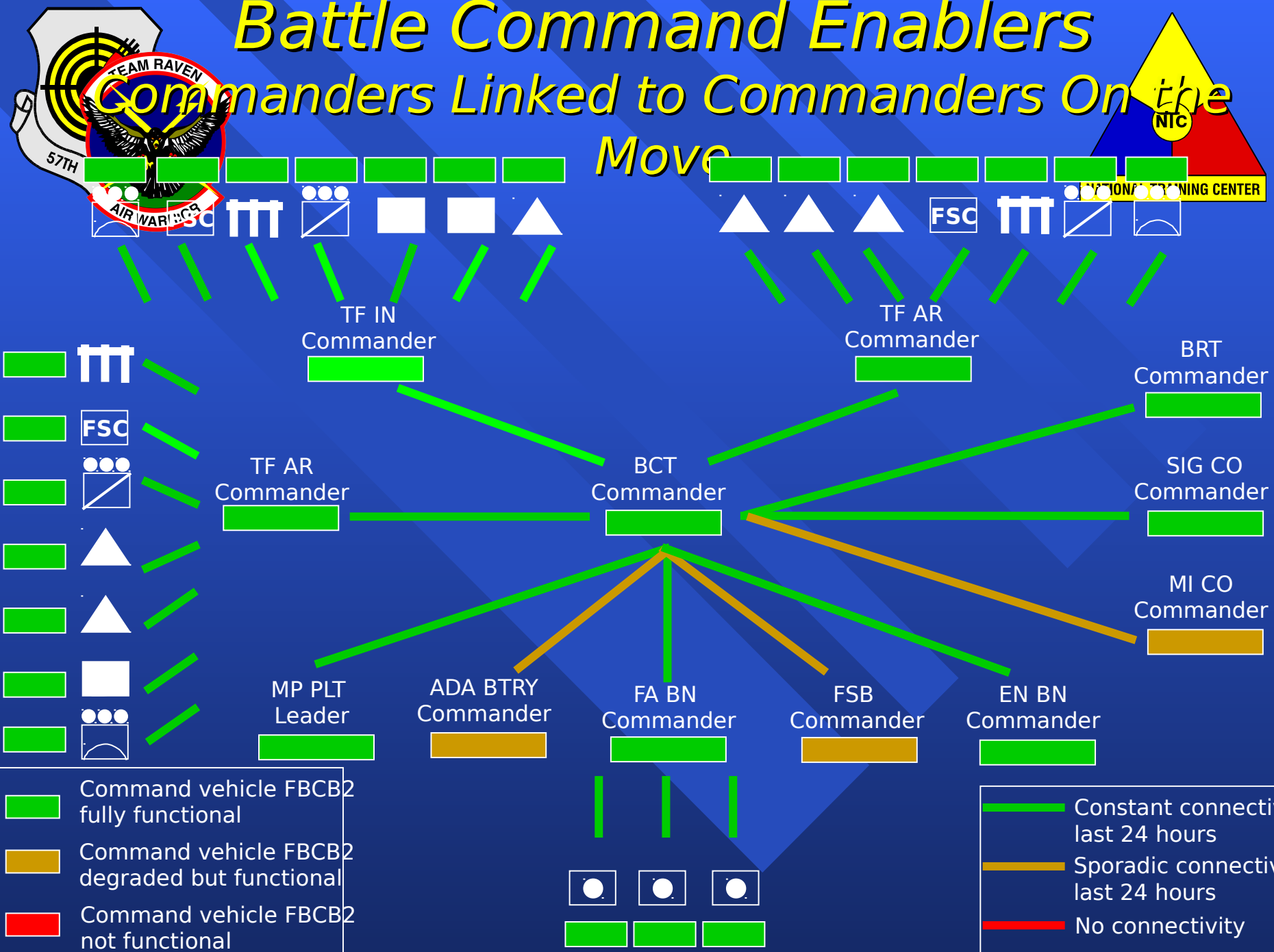


	TOTAL												
	MC	AU	MC	AU	MC	AU	MC	AU	MC	AU	MC	AU	
AH-64D	1	16									1	16	6%
UH-60			0	18							0	18	0%
OH-58D					16	16					16	16	100%
CH-47D								0	2		0	2	0%
UH-60 C2			1	2							1	2	50%
TAIS					1	1					1	1	100%
AVENGER					8	8					8	8	100%
SENTINEL							2	2			2	2	100%
MLRS	18	18									18	18	100%
Q-37	2	2									2	2	100%

- Aircraft data only reflects those aircraft that have arrived at Ft. Irwin. It does not include those that are enroute or have not yet deployed from homestation.

Battle Command Enablers

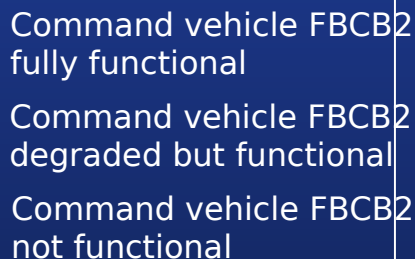
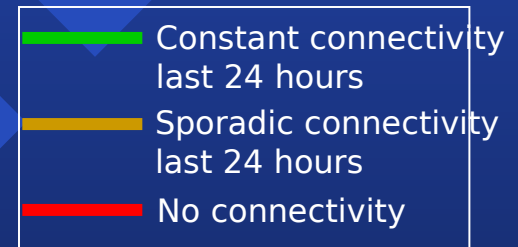
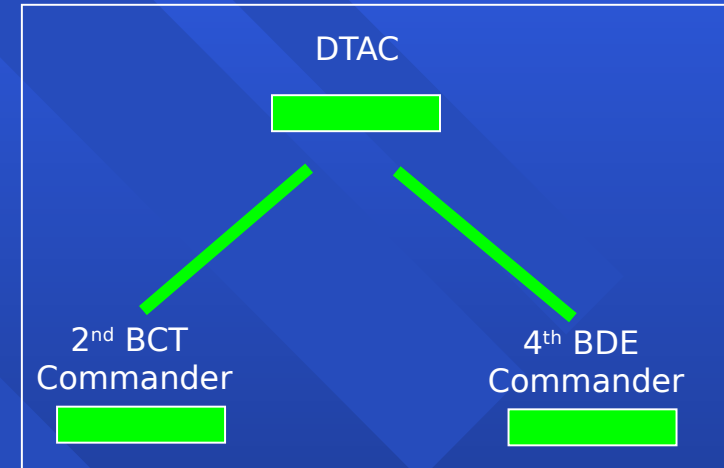
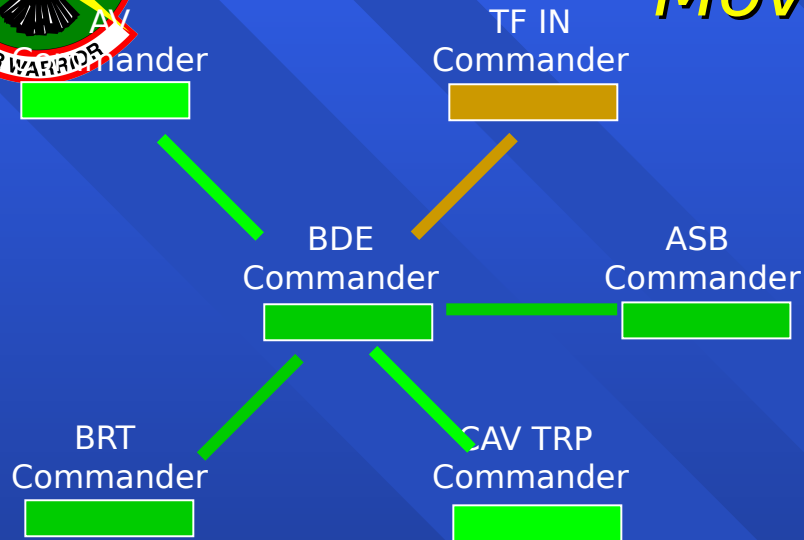
Commanders Linked to Commanders On the Move

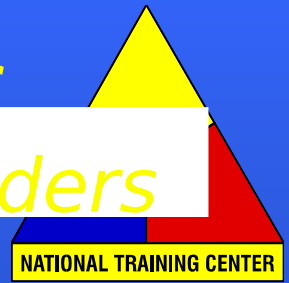




Battle Command Enablers

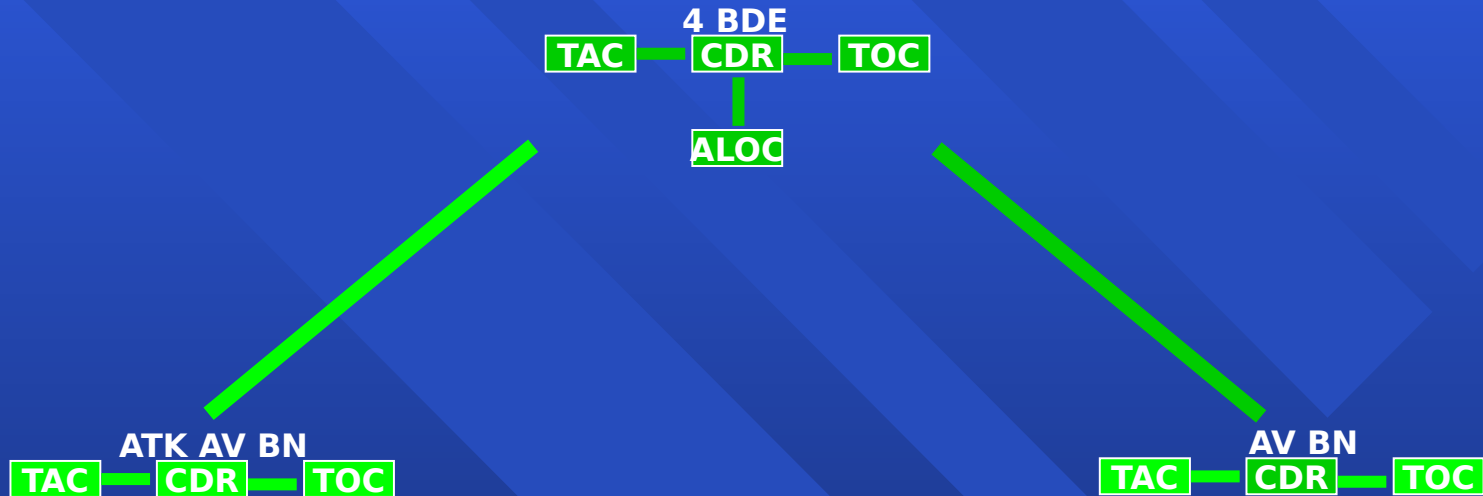
Commanders Linked to Commanders On the Move





Battle Command Enablers

Command Posts Supporting Commanders



All ABCS systems fully functional

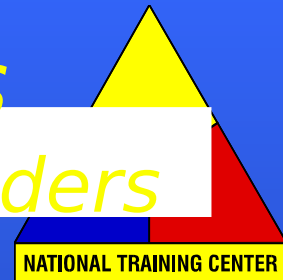
Command post functional with one or more ABCS systems down

Command post not functional

Constant connectivity last 24 hours

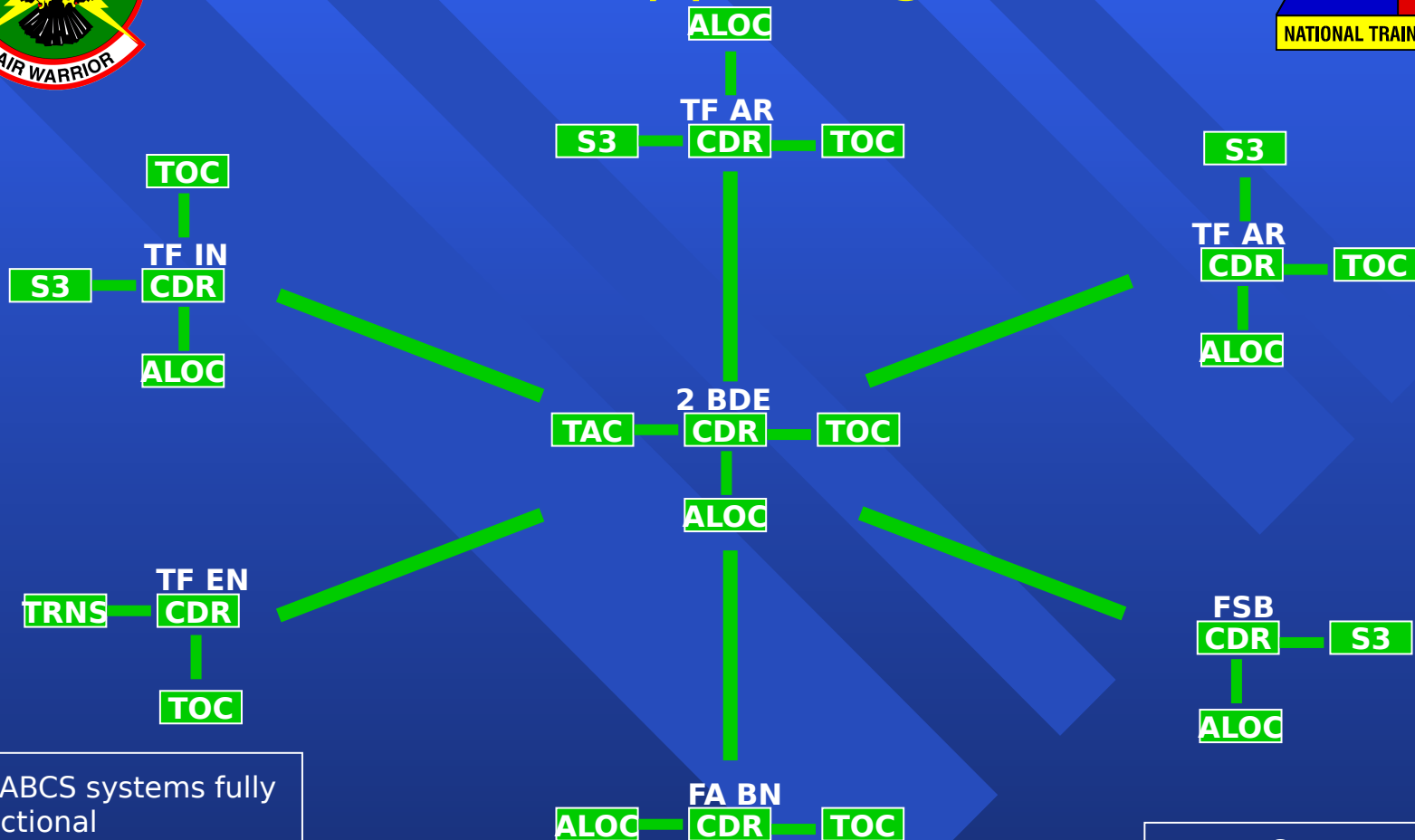
Sporadic connectivity last 24 hours

No connectivity



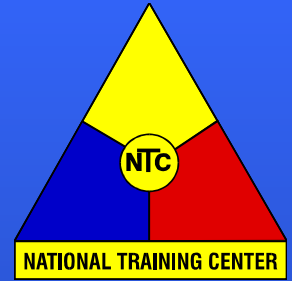
Battle Command Enablers

Command Posts Supporting Commanders





FSE INTEGRATION

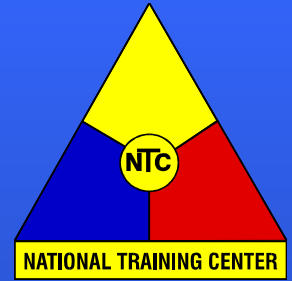


■ Planning

- Wargaming
- ATO request process
- R&S synchronization
- Fires synchronization
- Fires massing (max ord computations)
- ACA design
- Orders process
- Bottom-up refinement



FSE INTEGRATION

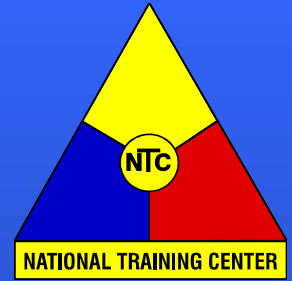


■ Preparation

- TOC setup
- Info flow
- FS rehearsal
- Combined Arms Rehearsal (CAR)
- FS FM rehearsal
- TACP C2 COMEX
- Observer / Obstacles status update



FSE INTEGRATION



■ Execution

- Infiltration of OPs
- Targeting meetings / BUBs
- High Payoff Target (HPT) assessment
- SPOT reporting from TACP elements
- ADA integration
- A2C2
- SEAD / Mark execution
- CAS / SEAD/Mark synchronization

"Air to Mud"

QUESTIONS



**U.S. AIR FORCE
TACTICAL AIR COMMAND &
CONTROL SPECIALISTS**

